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California and Germany, Opposites With a Common Energy Goal

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PARIS — One is a European country known as “the powerhouse of Europe” that struggles against soggy winters and seemingly endless gray skies. The other is a digitally driven American state, known as “the Golden State,” for its abundant sunshine and year-round growing season.

One is determined to lead an energy transformation through carefully drafted laws and regulations; the other is driven by an inventive spirit of boundary-pushing and experimentation.

And one is a crucial player in behind-the-scenes negotiations in the Paris climate talks, while the other has no formal role whatsoever but is a ubiquitous, cheerleading presence, with its governor and former governor popping up all over town this week at high-profile events.

In many facets, Germany and California could not differ more. Yet they share one overarching goal: to develop climate-friendly energy solutions that can serve as a model for the countries now meeting in Paris, as they each try to curb carbon emissions.

The two locuses of energy innovation have recognized their mutuality and have become close collaborators, traversing the nearly 5,700 miles to share ideas and study the other’s best practices.

California’s “million solar roof” program, started under former Gov. Arnold Schwarzenegger (who is one of the active California representatives in Paris), mirrored Germany’s “hundred-thousand solar roof” initiative that began a few years earlier.

LichtBlick, a clean-energy provider based in Hamburg, Germany, has teamed up with Tesla Motors to help homeowners in Germany integrate its renewable energy storage cells into the country’s grid.

Beyond the mutual benefits, the experiences of California and Germany — both of which have managed to keep their economies chugging, and even growing — are seen as laboratories for the kinds of ideas that could help 195 countries and the European Union reach emissions targets that they have at least generally pledged to meet.

“Germany and California have to become learning hubs for the rest of the world,” Robert Weisenmiller, chairman of the California Energy Commission, said this year during a visit to Berlin, where he exchanged ideas with policy makers and others involved in Germany’s renewable energy programs.

Germany, with nearly 83 million people, has more than twice the population of California. Both are expanding their clean power, especially wind and solar, to ensure that it accounts for more than a third of all energy generated by 2025. Both want to slash their carbon emissions to 80 percent of 1990 levels by 2050. And both are seeking ways to improve their respective transportation sectors, in which they share a love of fast, gasoline- or diesel-powered cars.

“There have constantly been conversations between California and Germany regarding renewable energy and how to bring it into service in the best possible way,” said Angelina Galiteva, a founder of the California-based Renewables 100 Policy Institute, which promotes the transition to renewable energy and recently showed a group of German and other European experts around Sacramento and Silicon Valley.

For all the similarities, there are also profound differences that reflect the local cultures, the makeup of the power grid and the role of government in determining energy policy.

One of the elements that most baffled the Germans visiting California was the realization that residents with solar panels on their homes were not required to share information with operators about how much power they planned to generate, or the amount they would draw from the grid.

Such a laissez-faire approach would be unthinkable in Germany, where the grid is overseen by a government entity, and “smart” meters that gather and relay such information will be required from next year.

Yet Ms. Galiteva said she envied Germany’s ability to impose that level of control on renewables and the grid.

The German government began its solar program in 2000 by offering generous payments to anyone generating power through solar, wind or biomass that was fed into the grid — which was required by law. That move is widely viewed as having helped make renewables attractive on a global scale, with investment in renewable energy worldwide reaching \$270.2 billion in 2014.

But Germany’s policies have come at a price, especially for citizens: The monthly power bill for a three-person household has more than doubled since 2000, to \$94 a month. California, by contrast, has been able to avoid that steep jump through stringent conservation measures and by including the utilities in its renewable expansion plans; the average monthly bill in California, air-conditioning and all, is \$88.

The envy works both ways. Many Germans look longingly to California, not only for its abundant sunlight, but for the prowess of its tech industry, which is increasingly linked to the growth of renewable energy. And Germany lacks the capital and regulatory ease to allow innovations to become viable businesses.

Philip Schöder knows both sides well. The 32-year-old German helped Tesla Motors launch in Germany before returning this year to Sonnenbatterie, a German-based renewable energy storage company with a branch in Los Angeles, where he got his start.

He points to the culture of risk-taking in California, supported by easier-to-navigate corporate laws and abundant venture capital, as one reason for the state's energy transformation.

"In California they understand that failure is necessary, that life cycles are short, and the traditional way of thinking here, to let the Americans come up with something and we Germans will perfect it, no longer works," Mr. Schöder said.

Other differences are on full display in Paris, where California has almost played the part of the 196th participating country — without nationhood or actual say. In contrast, despite its strong record in doing exactly what the other nations hope to achieve, Germany has remained behind the scenes.

But even as he winces at the word "leadership," Jürgen Flasbarth, an undersecretary in the country's Environment Ministry, said Germans realize the importance of taking more of a Californian approach when trying to secure a climate-change deal.

"I think that we will be able to play a strong role," he said, "to be a driving force toward an agreement."